

# Remote Airborne Particle Counter ZR-1730/1731



## Introduction

Based on proven light-scattering technology, the ZR-1730 and ZR-1731 series provide continuous, real-time airborne particle monitoring for pharmaceutical plants, biotech laboratories, semiconductor fabs, and hospital cleanrooms. The built-in HEPA filter ensures exhaust air is particle-free, while the rugged 316L enclosure withstands aggressive VHP and disinfectants. Designed for long-term unattended operation, these instruments deliver actionable data, instant alarms, and full regulatory compliance.

## Reference standards

- JIS B 9921:2010
- EU GMP
- ISO 14644-1
- ISO 21501-4:2018
- Federal Standard 209E
- JJF 1190-2008
- GB/T 6167-2007
- GB/T 16292-2025
- YY 0033-2000
- JJF 2058-2023
- JJF 2295-2025

## Features

### Cleanroom-grade compliant design

- 316L stainless steel housing, resistant to VHP and common cleanroom disinfectants.
- Built in HEPA filter ensures clean exhaust and prevents secondary contamination.
- Anti fingerprint, easy to clean surface for routine maintenance.

### Flexible integration & system integration

- Supports screen / no-screen, active / passive configurations; optional external touch screen.
- PoE and DC power supply simplify cabling and enable flexible installation.
- Rich data interfaces for easy connection to various monitoring systems.

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## Regulation-compliant monitoring and data analysis

- Simultaneous six-channel monitoring, supporting dynamic and static cleanliness assessment.
- Massive storage capacity – manages data from over 20,000 rooms and 200,000 sampling points.
- Three-level user access and complete audit trail to meet data integrity requirements.

## Durable and intelligent maintenance

- Key components (fan, light source) have a lifetime of up to 20,000 hours.
- Real-time self-diagnosis of critical components supports preventive maintenance.
- Remote firmware upgrade enables fast deployment of new features and reduces operating costs.
- Audible and visual alarms for out-of-spec conditions or faults, ensuring timely response.

## Specifications

Parameter	Range
Flow rate	28.3 L/min±2.5%
Particle size channels	0.3, 0.5, 1.0, 3.0, 5.0, 10.0µm
Counting efficiency	0.3µm: 50%±20%; >0.5µm: 100%±10%
Size distribution error	≤±30% for 0.5µm and 5µm channels
Repeatability	≤10% FS
Particle concentration error	≤±30% FS for 0.5µm channel
Light source	Laser diode
Maximum concentration	37,000,000 particles/m <sup>3</sup> at 10% coincidence loss
Zero count	<1 count / 5 min
Sampling modes	Manual, automatic; concentration mode, count mode
Alarm indication	Limit exceedance alarm, abnormal status alarm
Data storage	8GB, about 100,000 groups of data
Preset rooms / points / recipes	20,000 rooms, 200,000 points
Sampling delay	15s to 99h
Sampling time	6s to 99h
Sampling volume	2.82L to 28,300L
Sampling interval	0s to 99h
Exhaust filtration	Built-in HEPA filter
Storage environment	Temperature: -20°C to +50°C; humidity: ≤95% RH
Data recording	Automatic storage and logging; USB export
Communication methods	Wi-Fi, Bluetooth, RS485, RS232
Communication interfaces	USB, RS485, RJ45, analog signal, pulse signal, temperature/humidity port
Power supply	DC 24V
Noise	≤60dB(A)
Language	English, Chinese
Dimensions	(L205×W105×H125)mm (excluding ports)
Weight	About 2kg